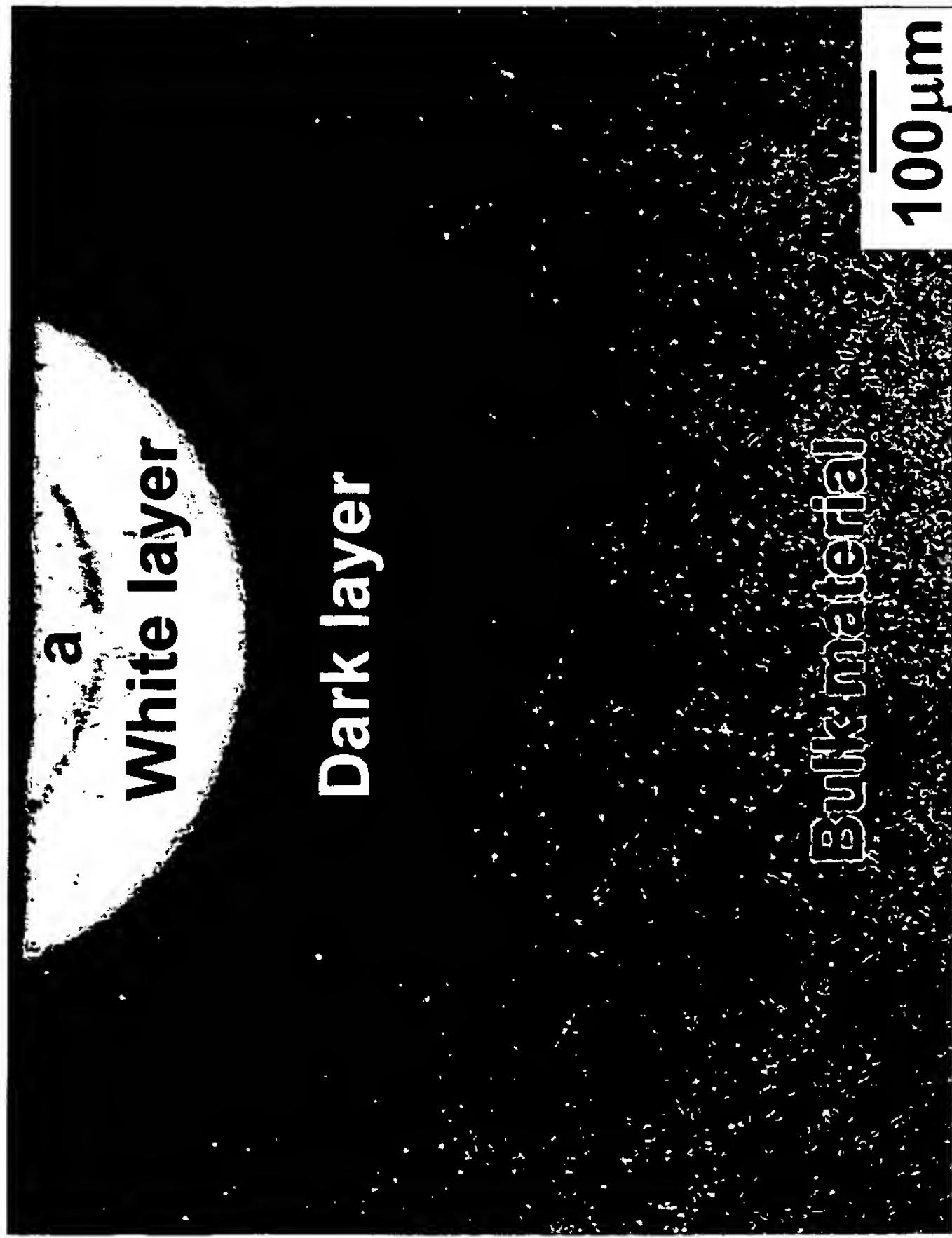


## The micrograph of laser treated S55C surface

laser

300W  
500mm/min  
Duty 50%

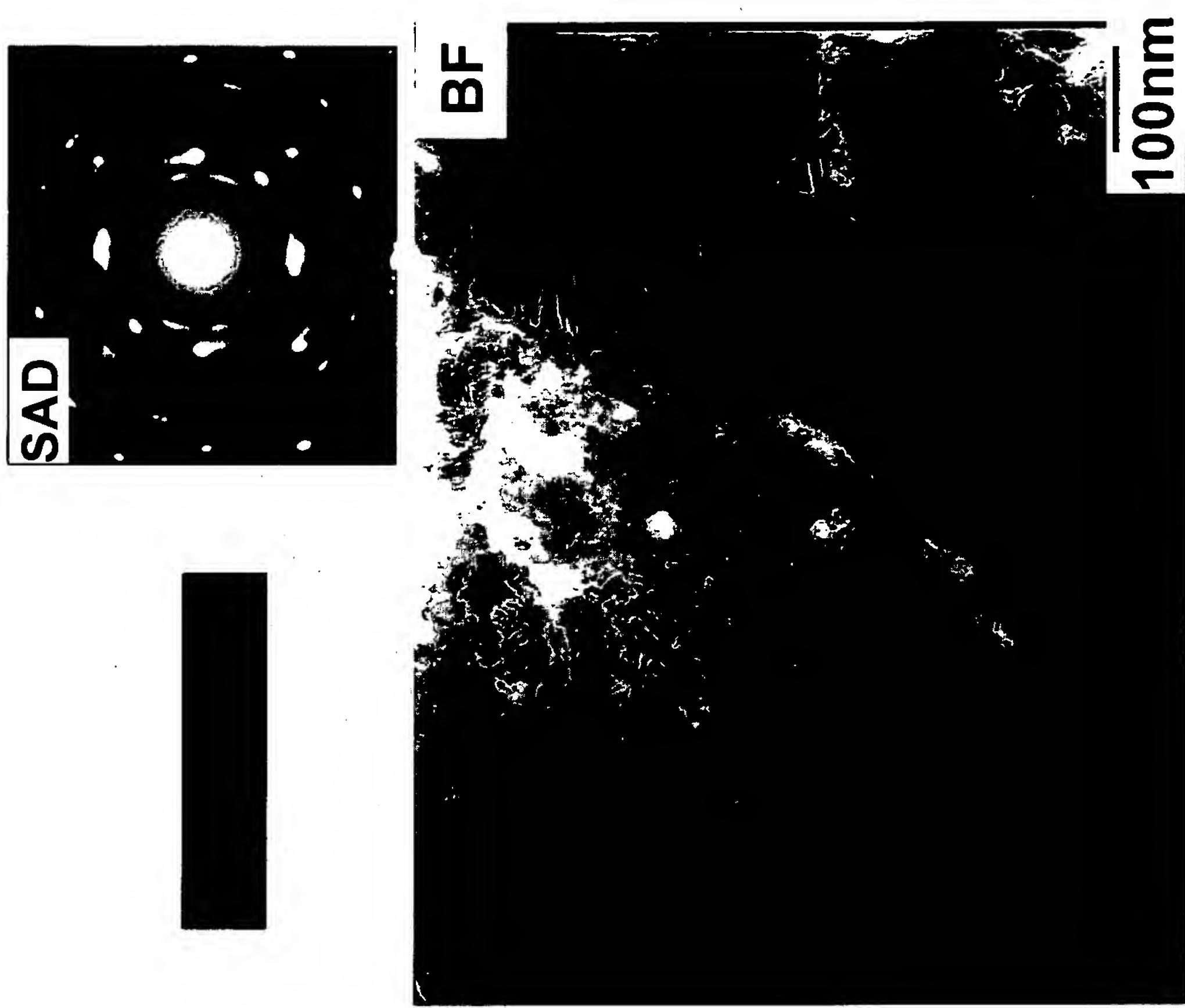
$\alpha' \rightarrow \gamma$   
quenched  
 $\gamma \rightarrow \alpha'$



SEM

Photo 1

## The TEM images of laser treated S55C surface



Laser treated surface

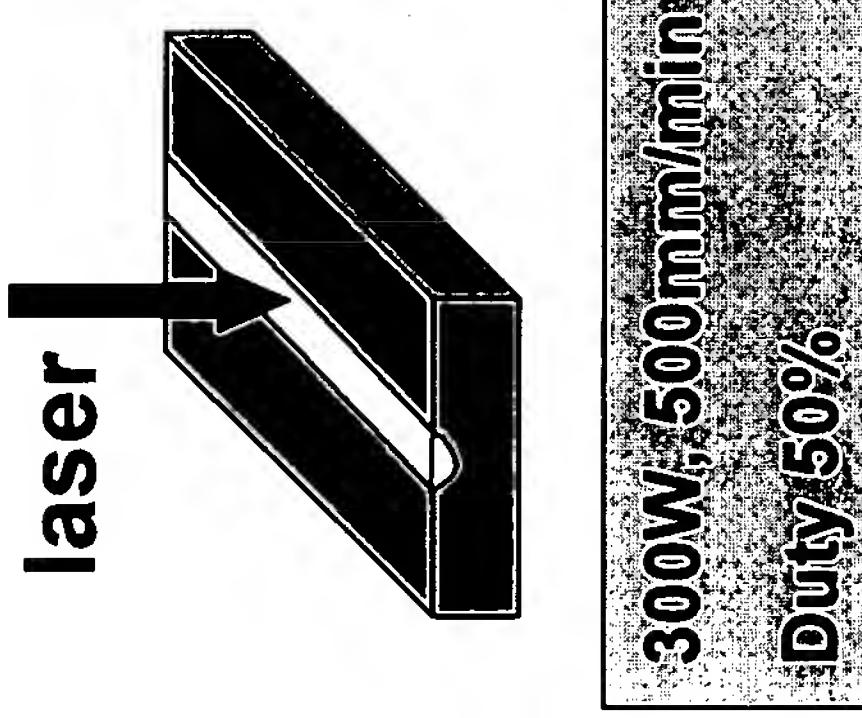
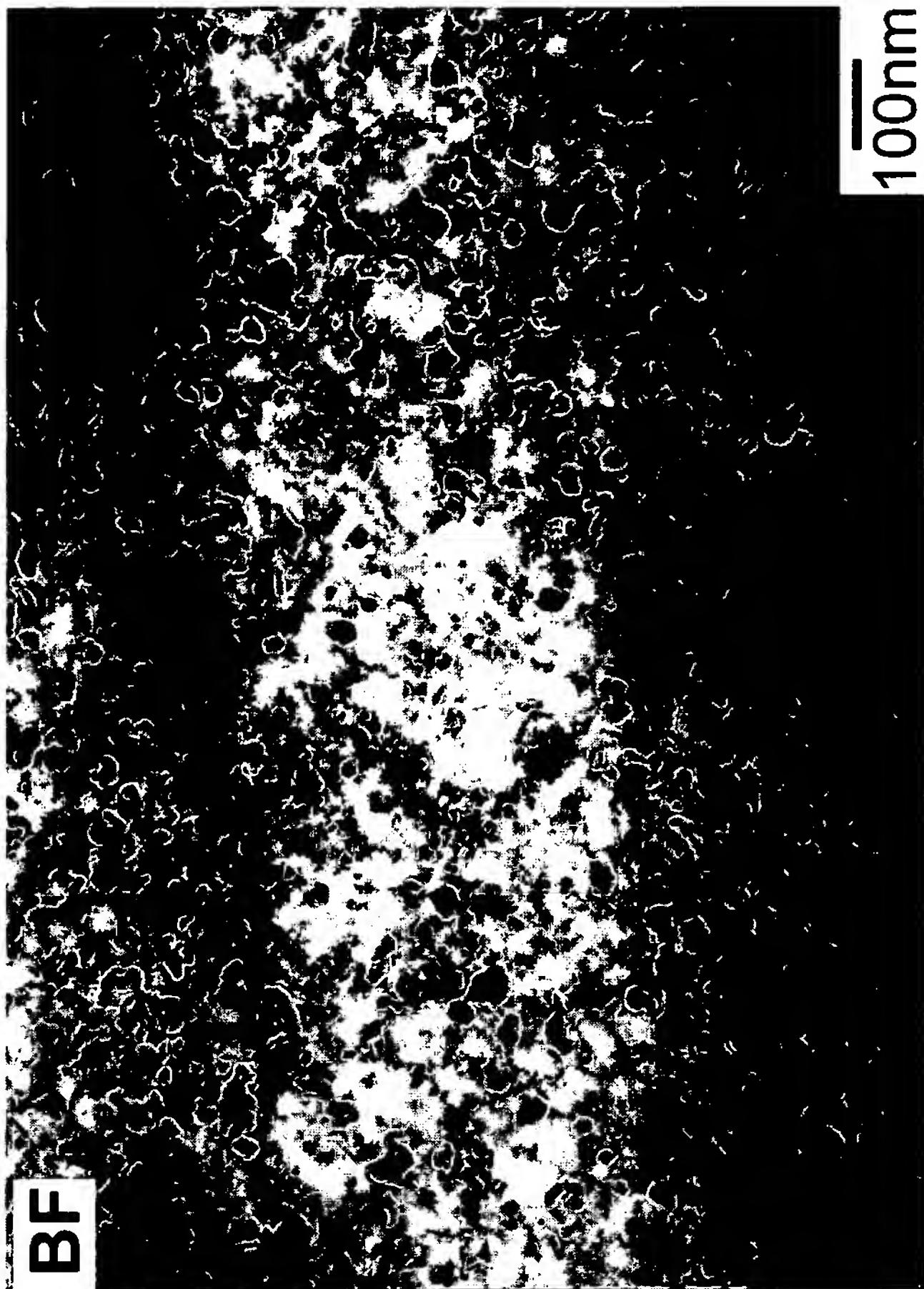
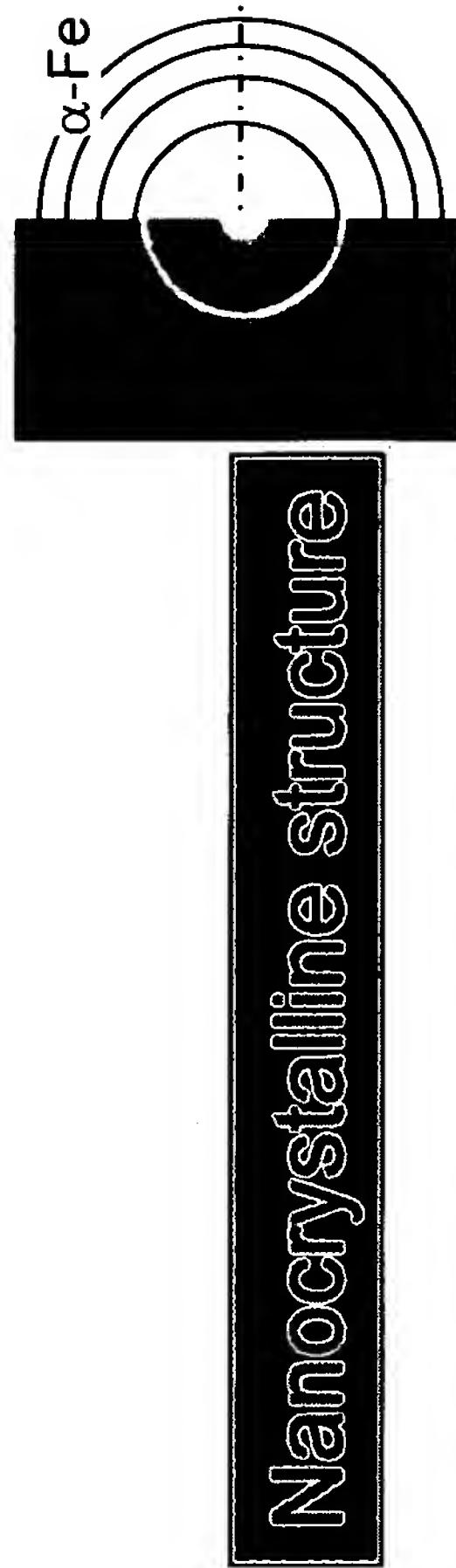


Photo 2

# TEM images of the topmost surface generated by hard machining in Fe-0.56%C steel with martensite structure



Feed rate: 0.05mm/rev  
Cutting speed : 80m/min  
Diameter of drill: 5.0 mm  
Oil mist cooling

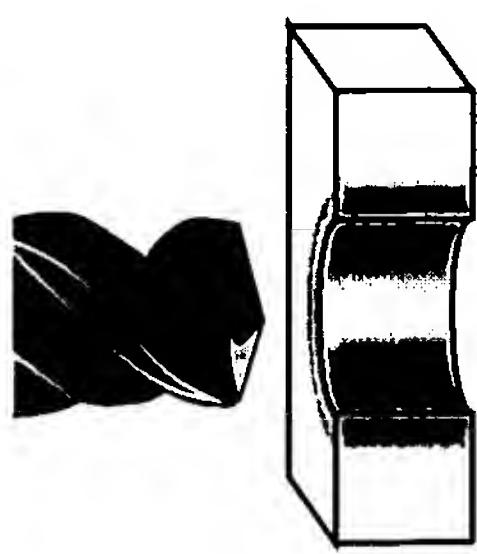


Photo 3